

Figure 1. Typical output pyrogram from instrument performing open-system temperature programmed pyrolysis (Jones and Tobey, 1997).

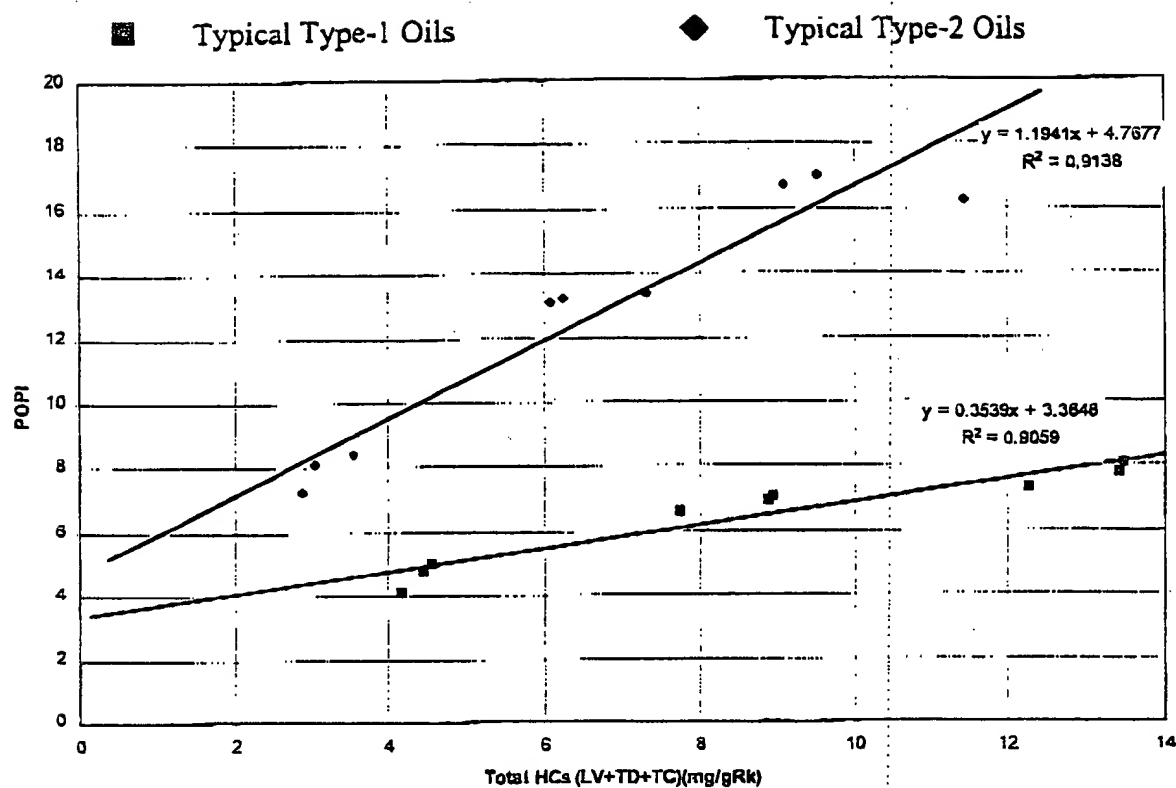
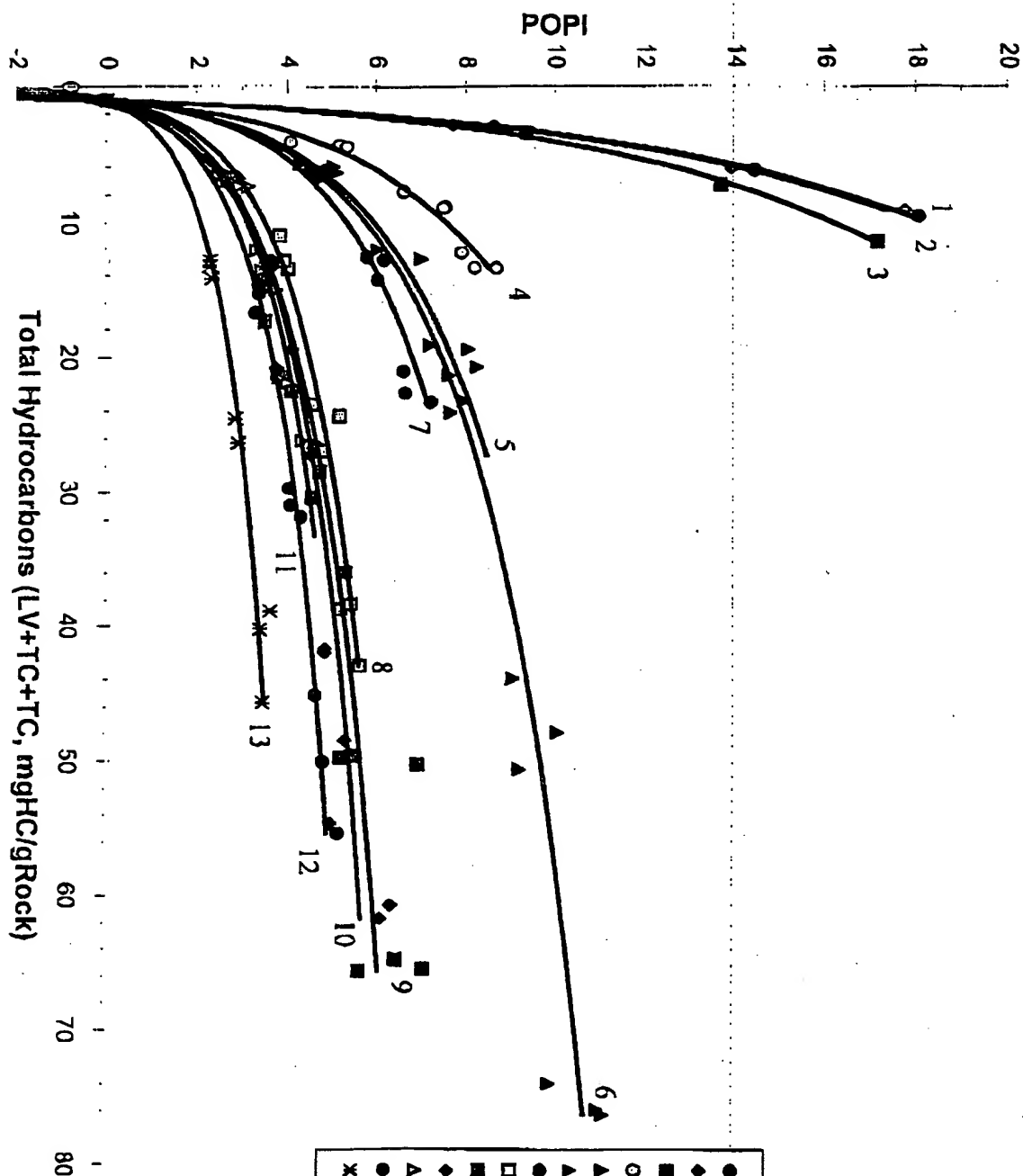


Figure 2. Cross plot of POPI versus Total Hydrocarbons (LV+TD+TC) showing linear interpolations to determine POPI₀ for two different oils from Jones and Tobey, 1997.



● Oil-1	$POPI = 7.99 \ln(x) - 0.0971$
◆ Oil-2	$POPI = 7.99 \ln(x) - 0.2684$
■ Oil-3	$POPI = 6.97 \ln(x) + 0.1478$
○ Oil-4	$POPI = 3.27 \ln(x) + 0.0447$
▲ Oil-5	$POPI = 2.54 \ln(x) + 0.1116$
△ Oil-6	$POPI = 2.47 \ln(x) + 0.0949$
● Oil-7	$POPI = 2.16 \ln(x) + 0.3627$
□ Oil-8	$POPI = 1.48 \ln(x) + 0.1100$
■ Oil-9	$POPI = 1.58 \ln(x) - 0.4631$
◆ Oil-10	$POPI = 1.40 \ln(x) - 0.0071$
△ Oil-11	$POPI = 1.28 \ln(x) + 0.165$
● Oil-12	$POPI = 1.25 \ln(x) - 0.0565$
× Oil-13	$POPI = 0.94 \ln(x) - 0.0715$

Figure 3. POPI versus Total Hydrocarbons (LV+TD+TC) for a suite of oils with substantially different pyrolytic character.

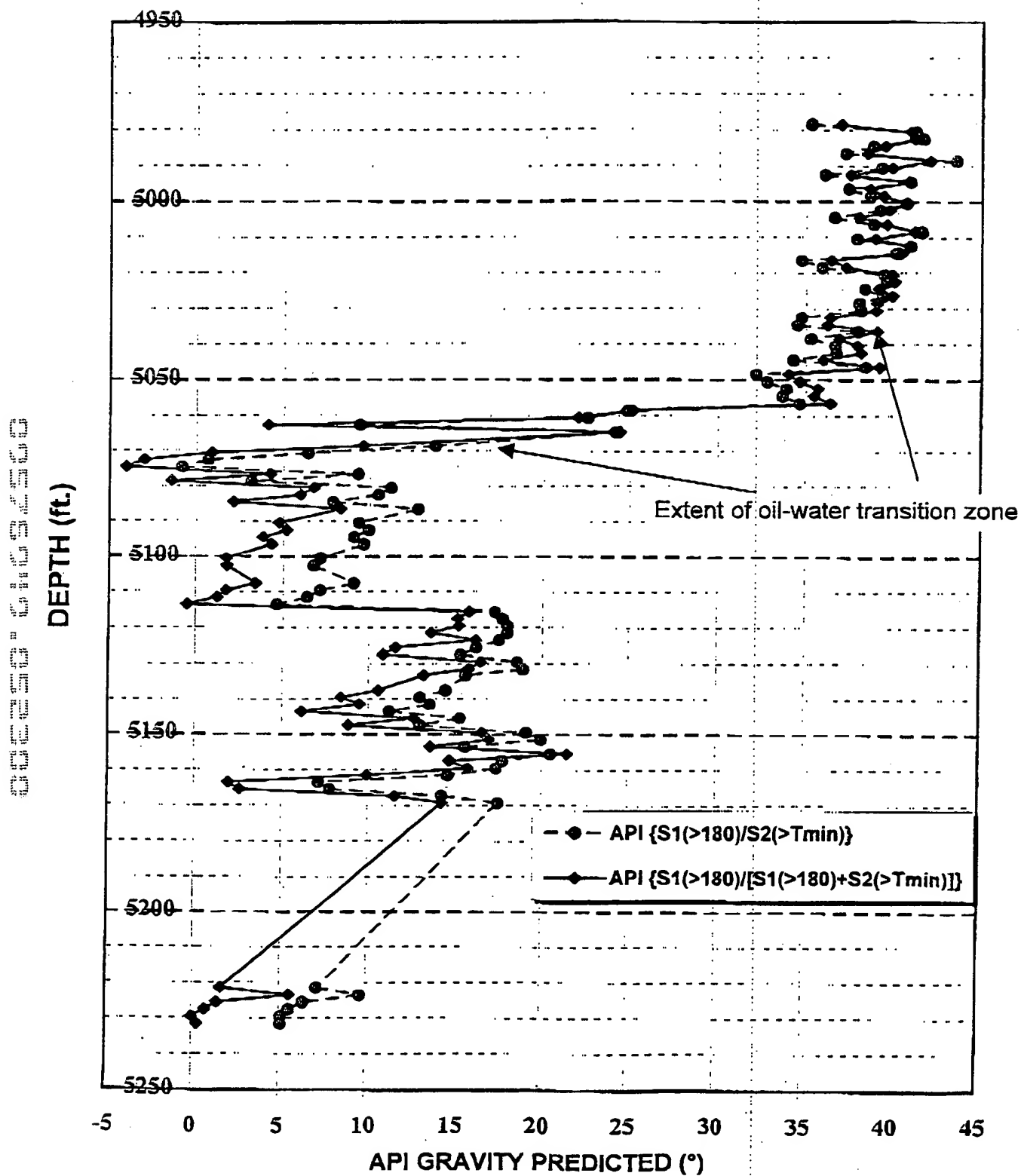


Figure 4: Plot of predicted API gravity determined from Rock-Eval ratios on individual core samples.

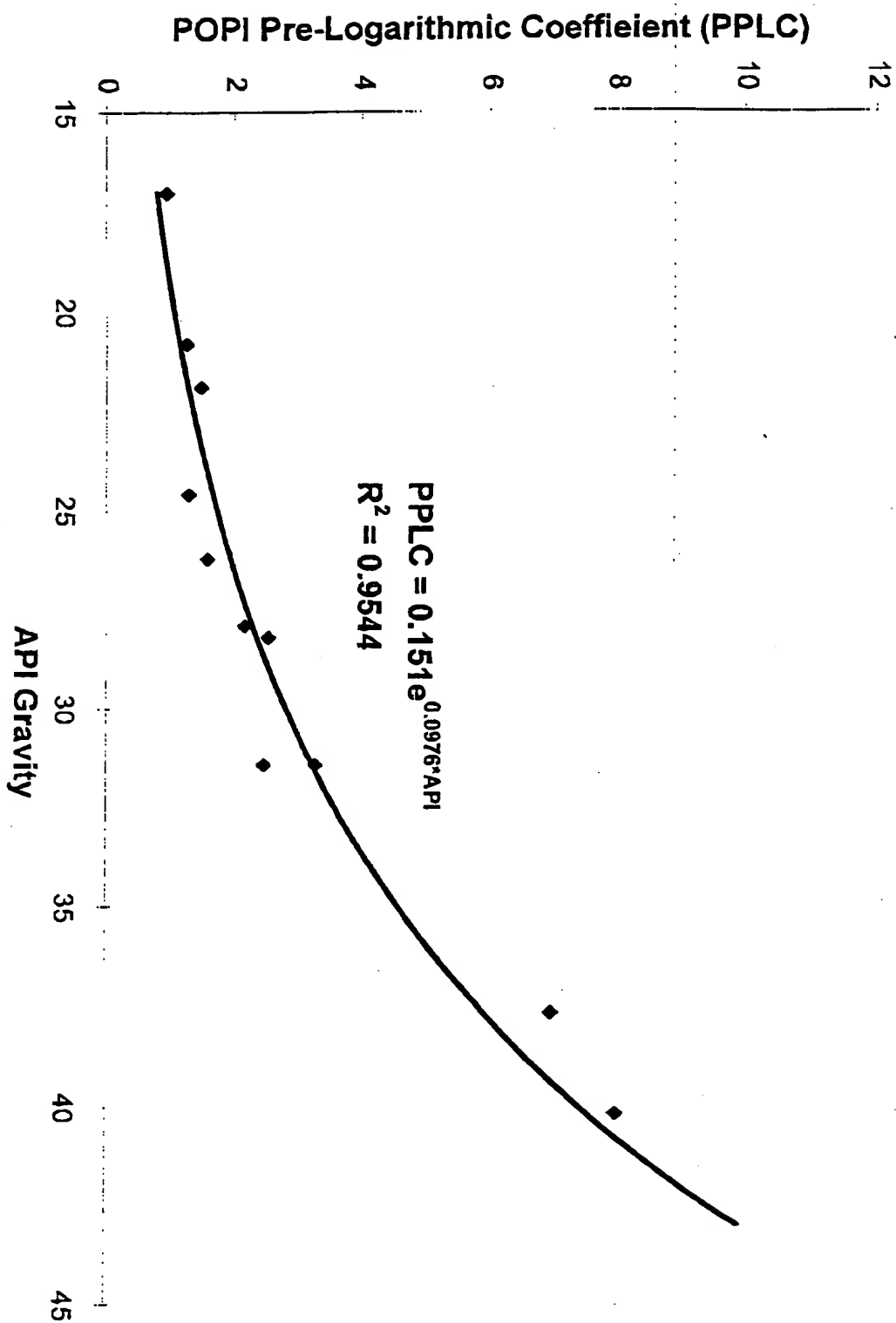


Figure 5. POPI Pre-Logarithmic Coefficient versus API Gravity for oils from Figure 3.

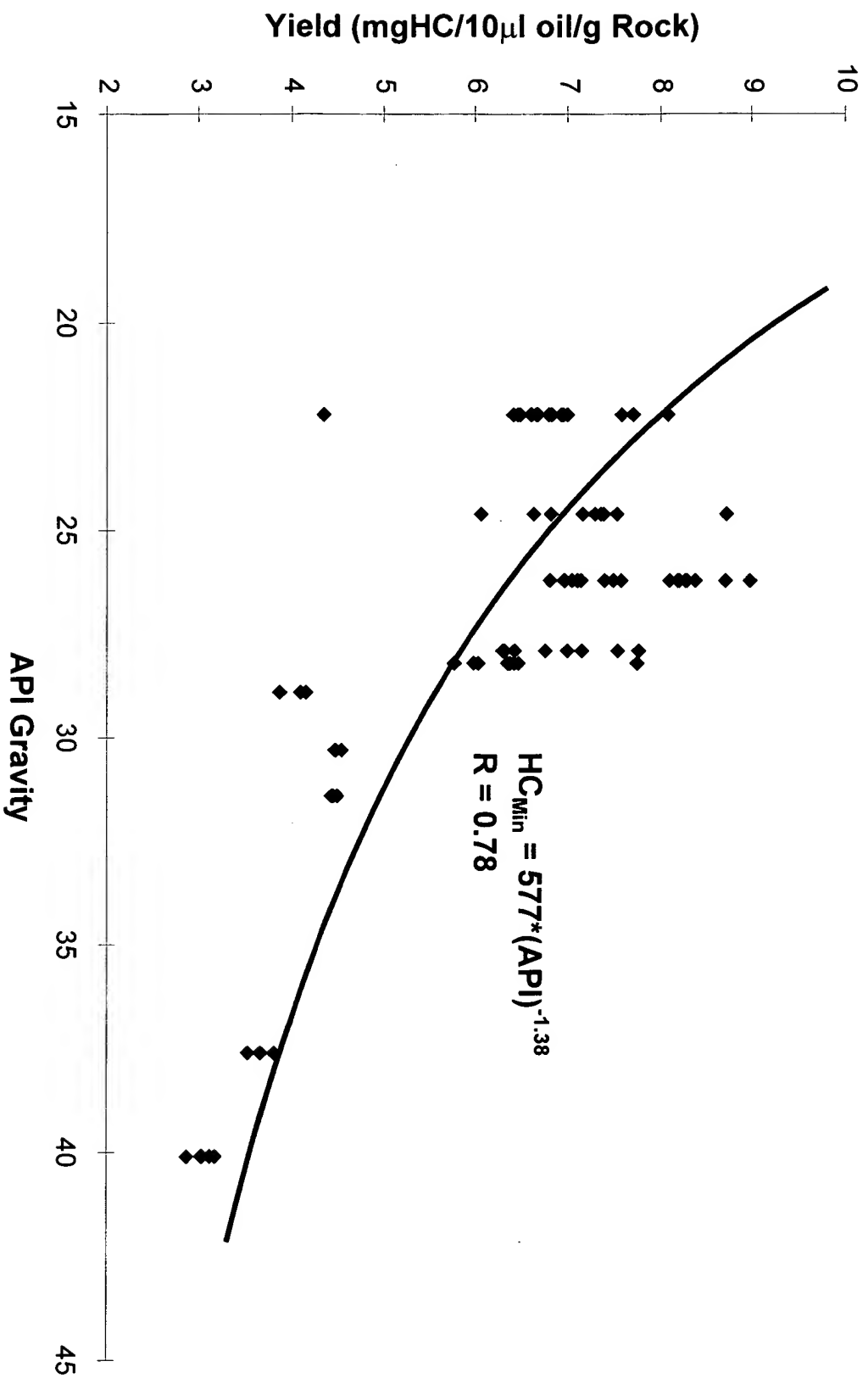


Figure 6. Pyrolytic yield (mgHC/10µl oil/g Rock) versus API gravity (°).

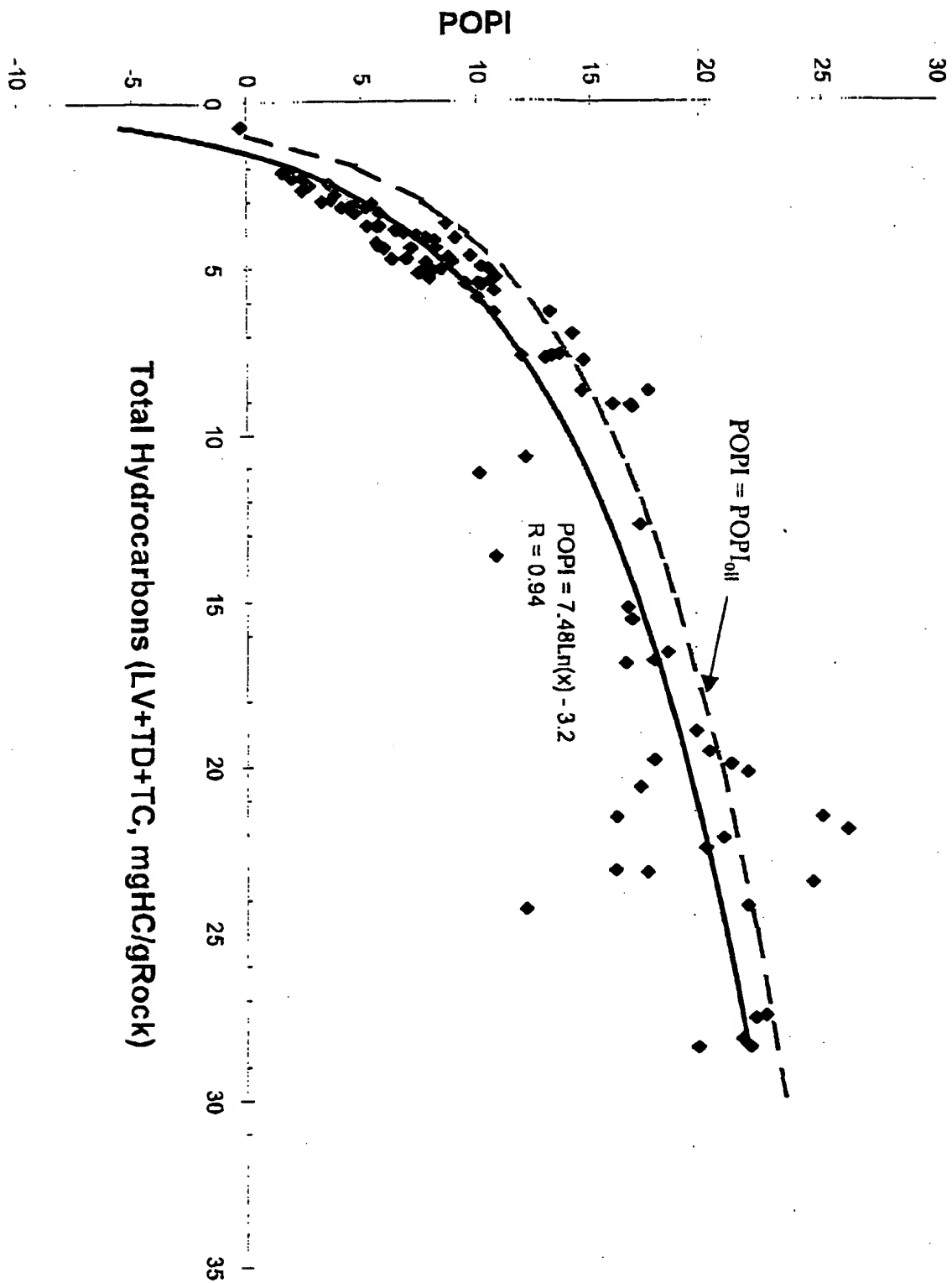


Figure 7. POPi versus Total Hydrocarbons (LV+TD+TC) for a well-behaved data set of reservoir rock samples.

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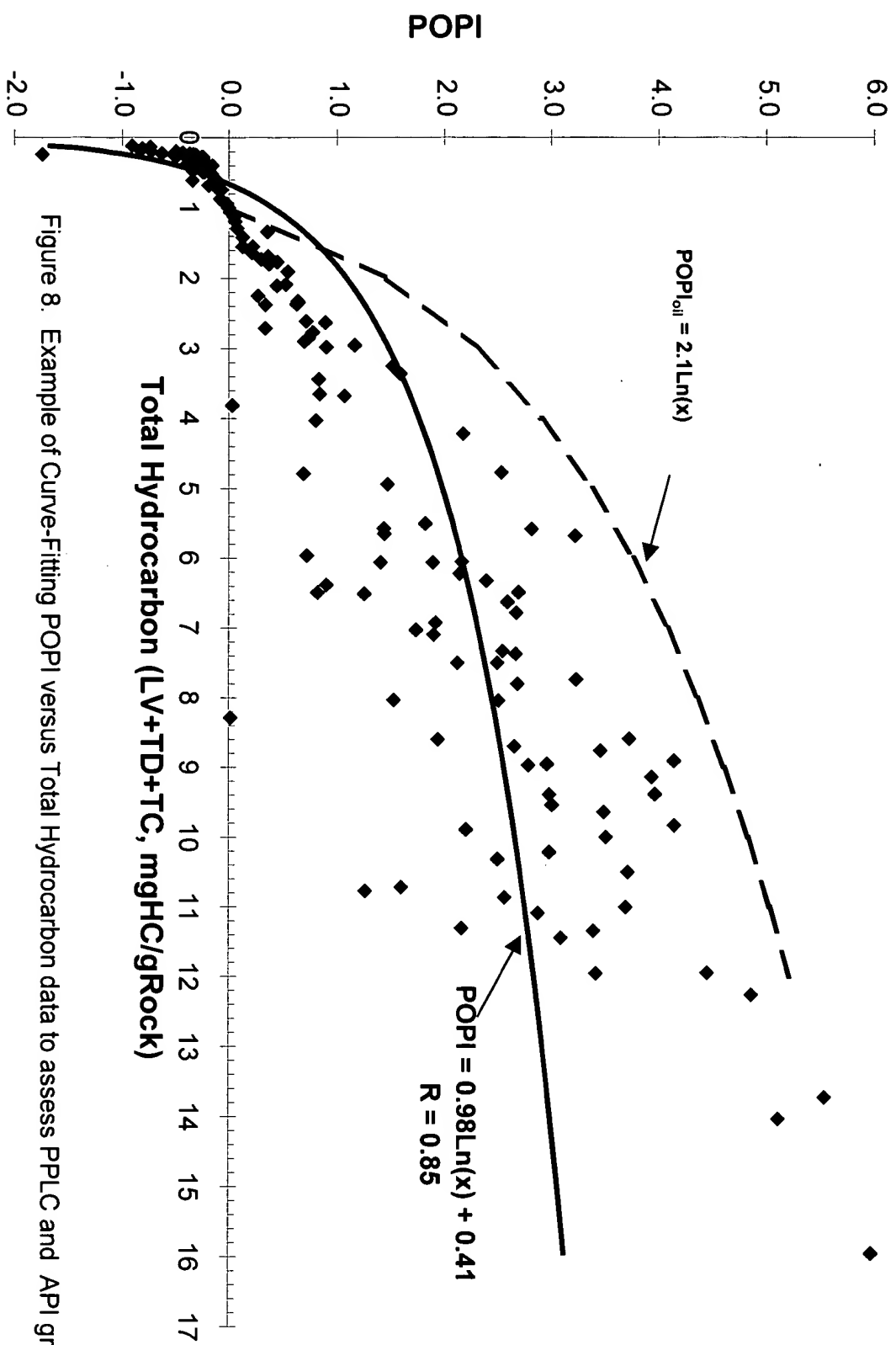
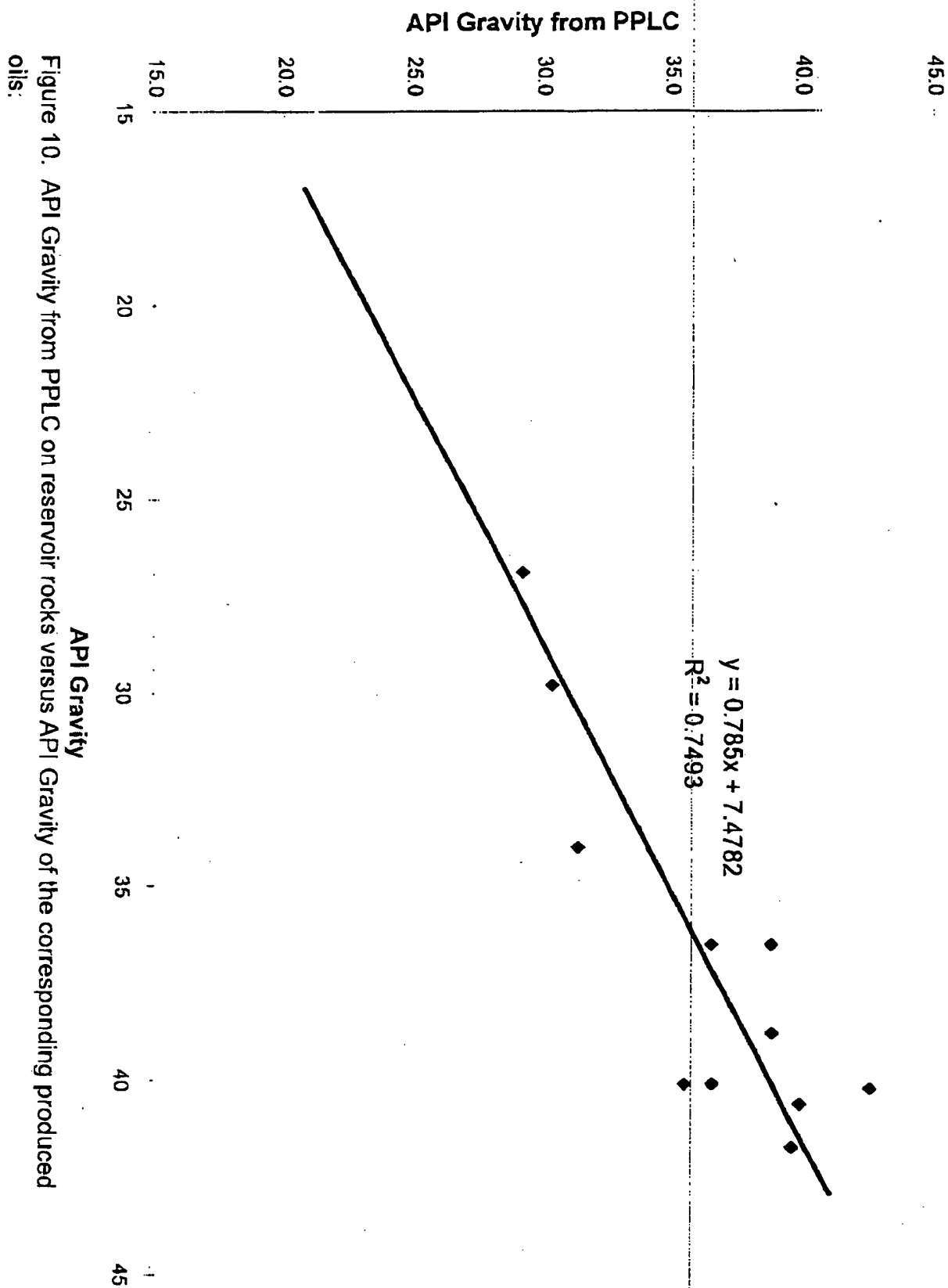


Figure 8. Example of Curve-Fitting POPI versus Total Hydrocarbon data to assess PPLC and API gravity.



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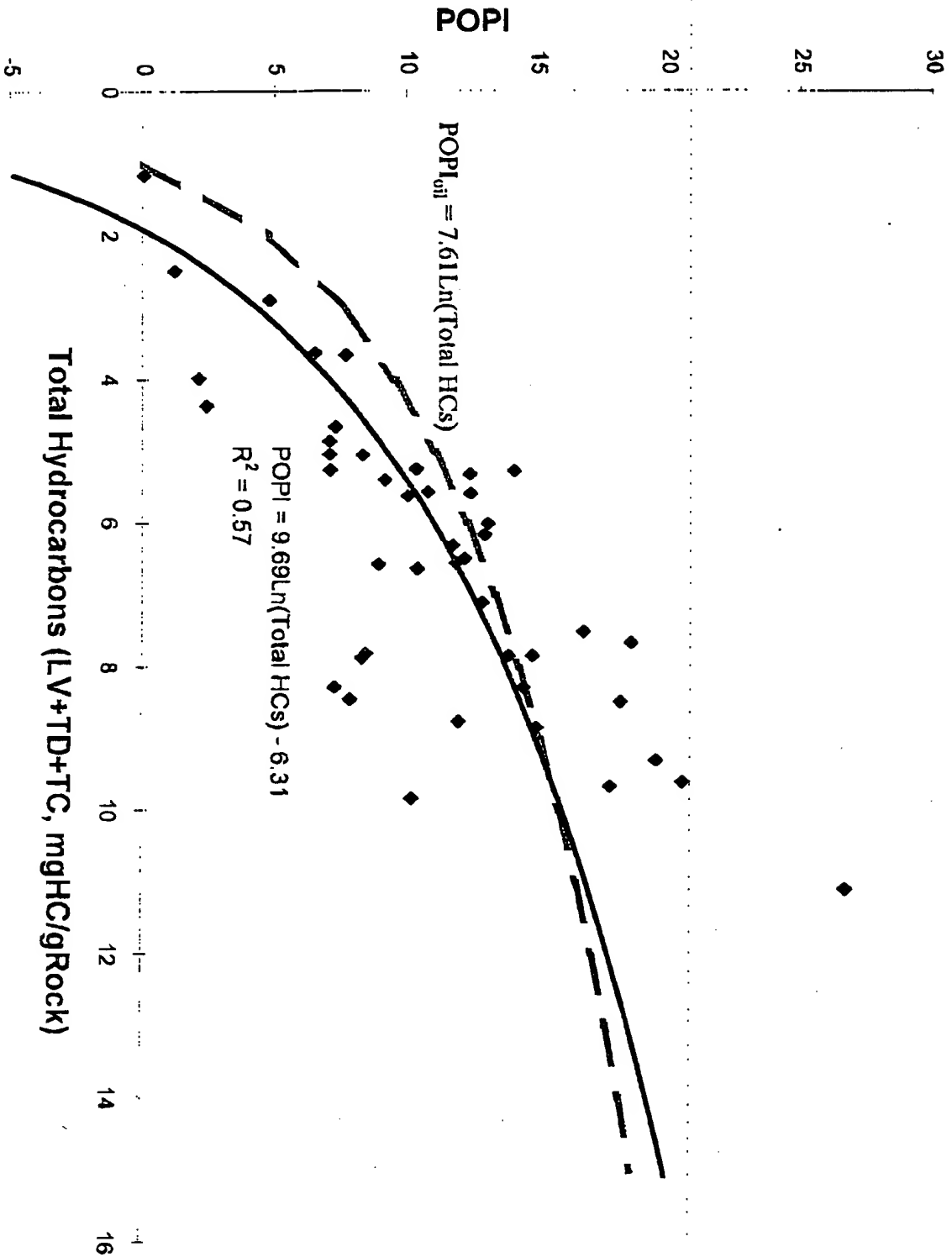


Figure 12. POPI versus Total Hydrocarbons (LV+TD+TC) for a well with a lesser correlation

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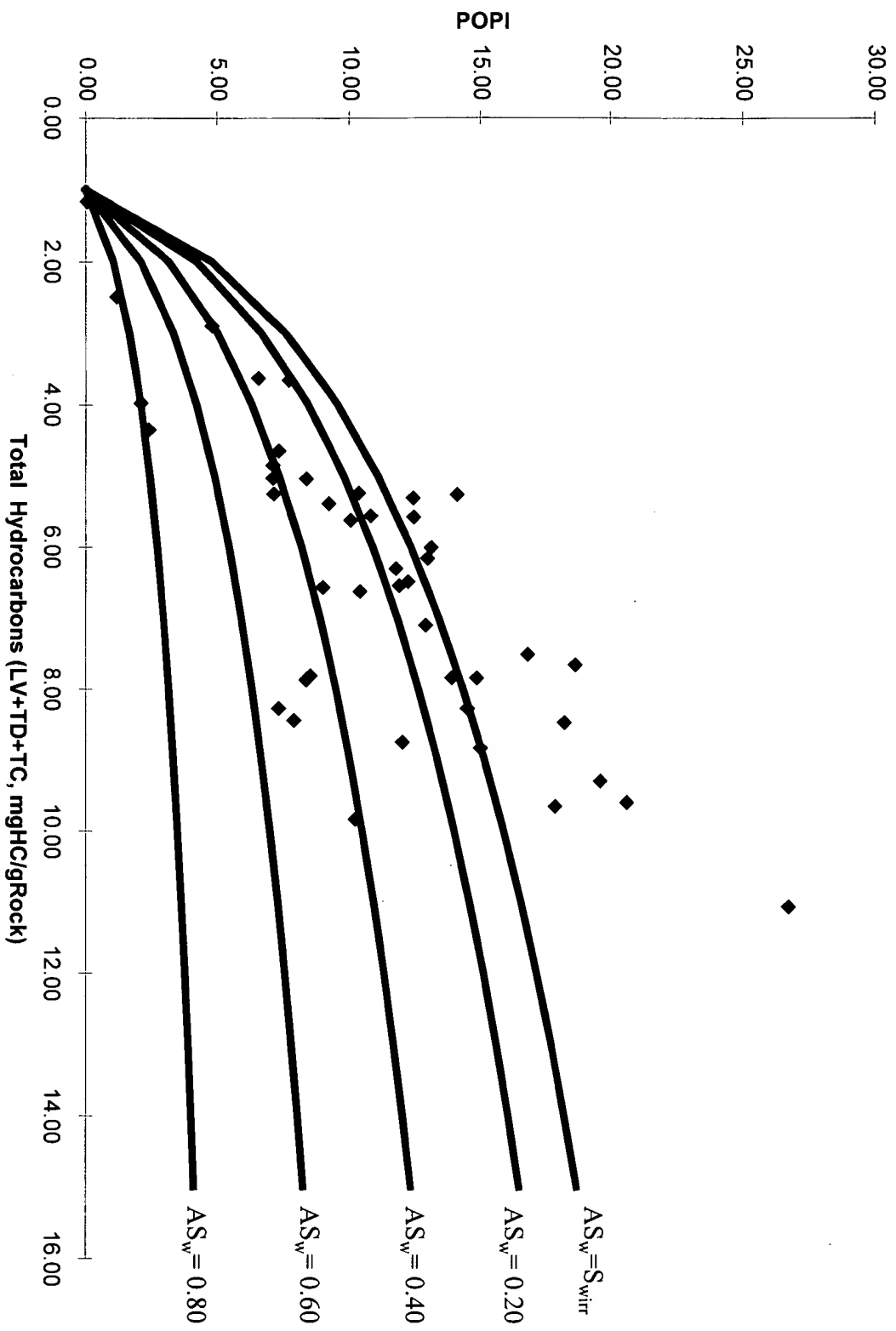


Figure 13. POPI versus Total Hydrocarbons (LV+TD+TC) with iso-ASW lines separating fields where similar ASW values are obtained.

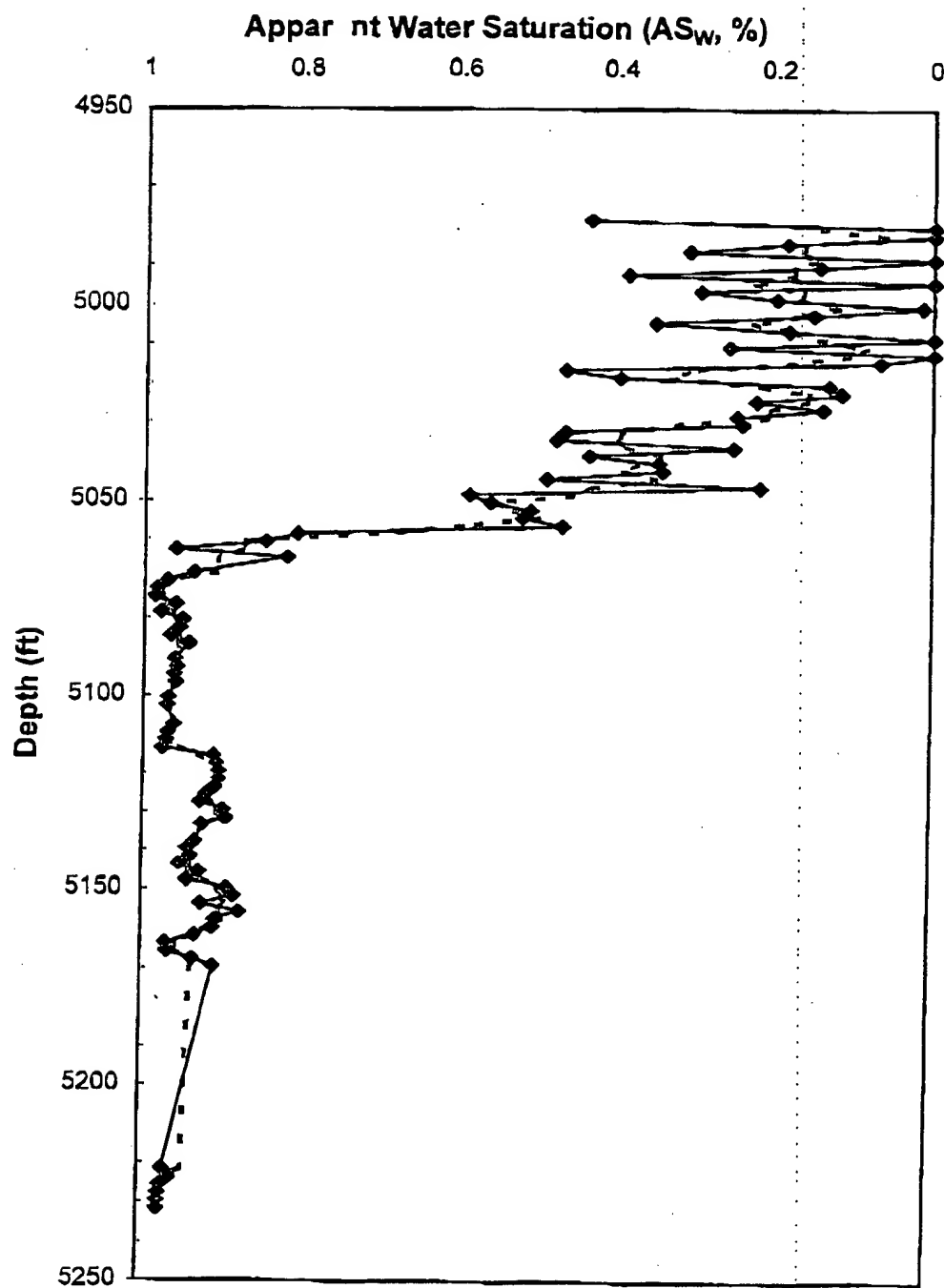


Figure 14. Depth versus Apparent Water Saturation (AS_w) with arithmetic smoothing applied to the dashed line.

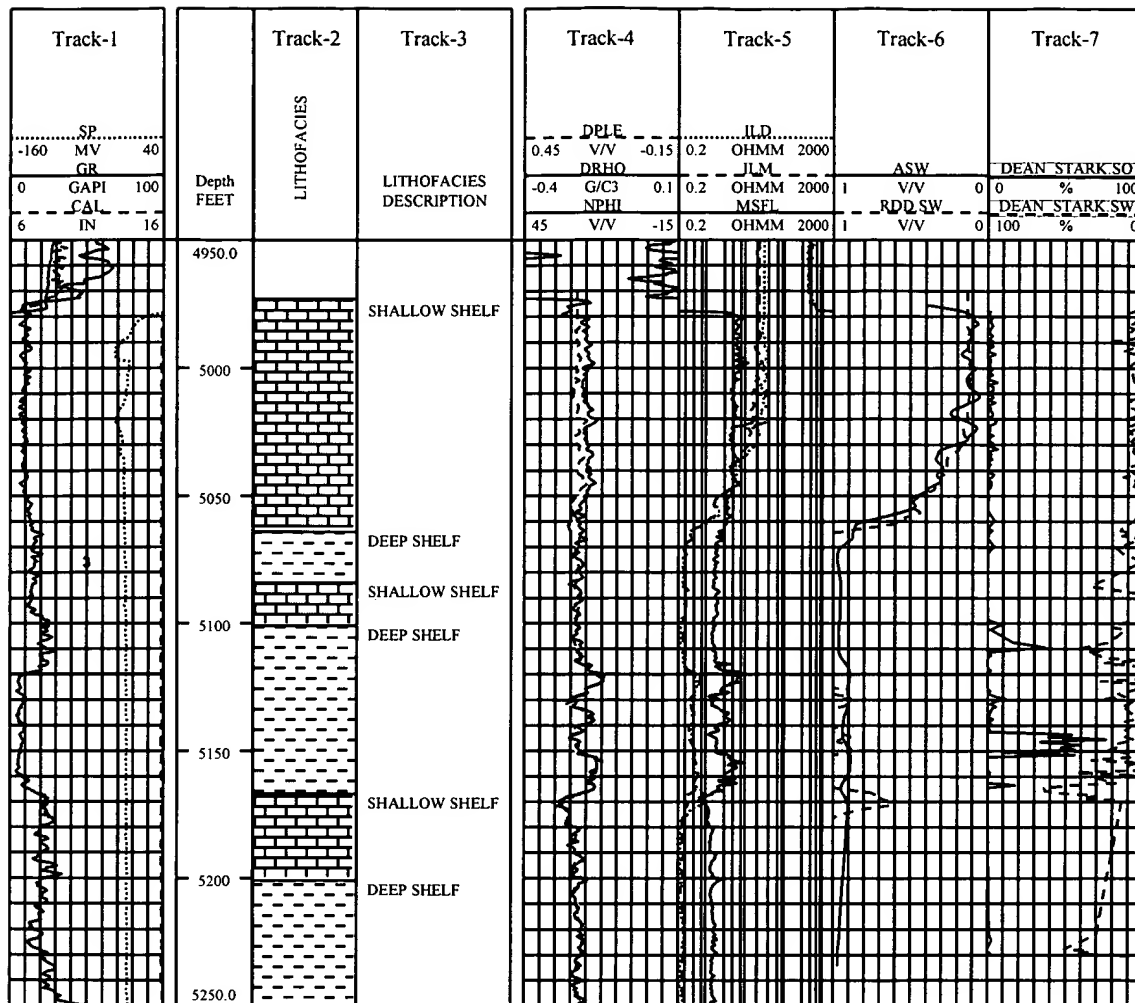


Figure 15. Composite log including typical electric log data, lithofacies descriptions, apparent water saturation(AS_w) from pyrolytic data, and Dean-Stark data.

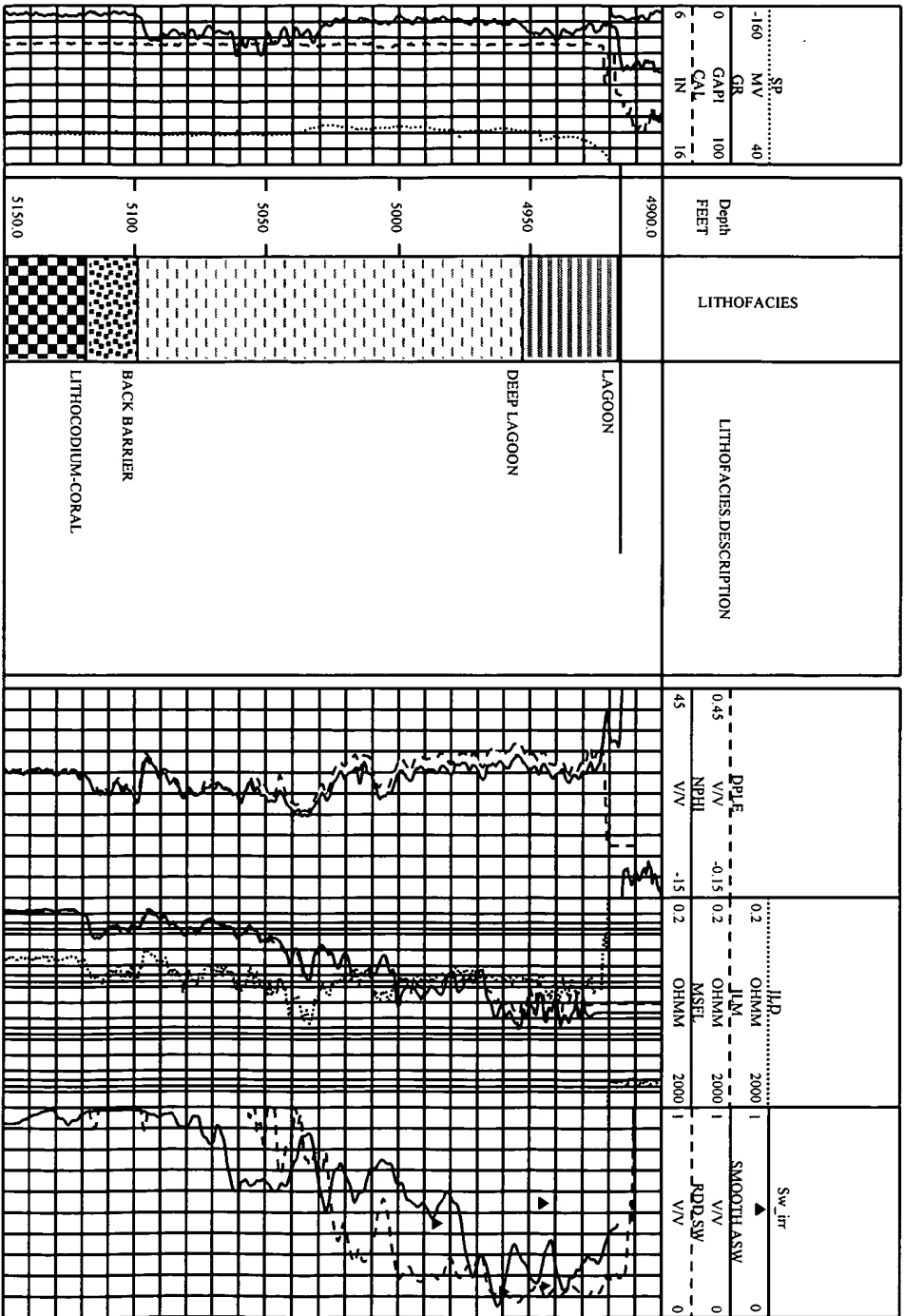


Figure 16. Composite well log including Lithofacies and Apparent Water Saturation (AS_w) as calculated from pyrolytic data.

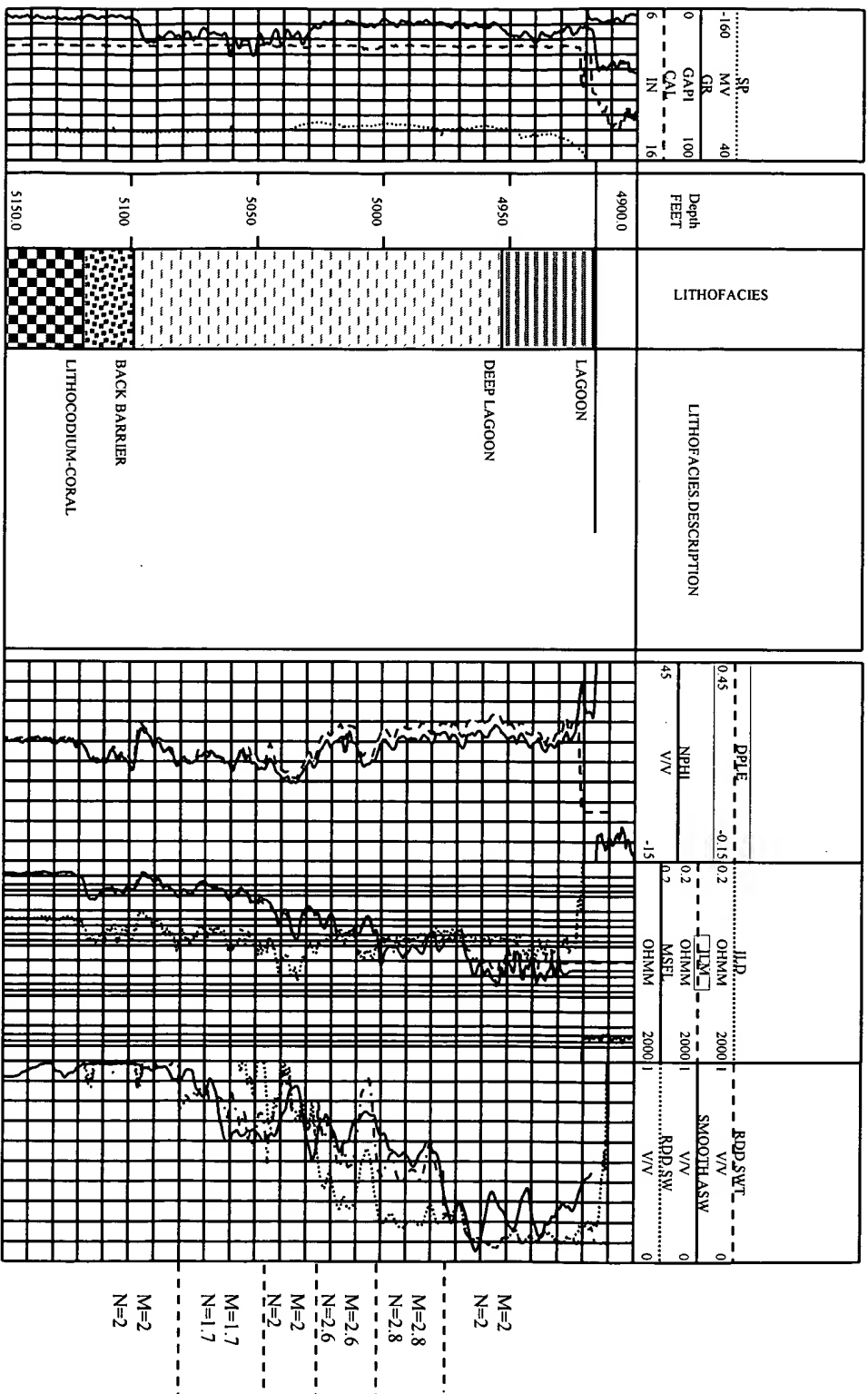


Figure 17. Composite well log including Lithofacies , Apparent Water Saturation (AS_w) as calculated from pyrolytic data, and recalculated water saturation using variable cementation (m) and saturation (n) exponent values as annotated.